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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	09/990,433
Filing Date	November 20, 2001
First Named Inventor	ZARLING, David A.
Group Art Unit	1633-1636
Examiner Name	KAUSHAL

Attorney Docket Number

A-64580-5/RFT/NBC (467135-38)

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Se	A1	4,873,191	10/1989	Wagner et al.	
Sg	A2	4,888,274	12/1989	Radding et al.	
Sr	A3	4,950,599	08/1990	Bertling	
Sr	A4	5,223,414	06/1993	Zarling et al.	
SX	A5	5,264,618	11/1993	Felgner et al.	
SX	A6	5,272,071	12/1993	Chappel	
SX	A7	5,273,881	12/1993	Sena et al.	
SX	A8	5,366,894	11/1994	Clark et al.	
SX	A9	5,416,260	05/1995	Koller et al.	
SX	A10	5,451,513	09/1995	Maliga et al.	
SX	A11	5,459,072	10/1995	McKay et al.	
SX	A12	5,460,941	10/1995	Camerini-Otero et al.	
SX	A13	5,464,764	11/1995	Capecchi et al.	
SX	A14	5,468,629	11/1995	Calhoun	
SX	A15	5,487,992	01/1996	Capecchi et al.	
SX	A16	5,501,967	03/1996	Offringa et al.	
SX	A17	5,506,098	04/1996	Zarling et al.	
SX	A18	5,510,473	04/1996	Camerini-Otero et al.	
SX	A19	5,527,674	06/1996	Guerra et al.	
SX	A20	5,543,131	08/1996	Levy	
SX	A21	5,545,806	08/1996	Lonberg et al.	
SX	A22	5,565,350	10/1996	Kmiec	
SX	A23	5,571,688	11/1996	Mekalanos et al.	
SX	A24	5,578,461	11/1996	Sherwin et al.	
SX	A25	5,580,734	12/1996	Treco et al.	
SX	A26	5,589,369	12/1996	Seidman et al.	

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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

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Substitute for form 1449A/PTO (Modified)				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	09/990,433
Sheet	2	of	8	Filing Date	November 20, 2001
				First Named Inventor	ZARLING, David A.
				Group Art Unit	4633- 1636
				Examiner Name	KAUSHAL
				Attorney Docket Number	A-64580-5/RFT/NBC (467135-38)

U.S. PATENT DOCUMENTS

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X	A27	5,612,205	03/1997	Kay et al.	
Z	A28	5,614,396	03/1997	Bradley et al.	
Z	A29	5,763,240	06/1998	Zarling et al.	
X	A30	5,948,653	09/1999	Pati et al.	
X	A31	6,255,113 B1	07/2001	Zarling et al.	
Z	A32				

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document Country Code ² Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
Z	B1	EP 0 718 404	11/1995	TAKARA SHUZO CO. (JP)		
Z	B2	WO 91/19796	12/1991	BAYLOR COLLEGE MED (US)		
Z	B3	WO 92/08791	05/1992	US COMMERCE (US)		
Z	B4	WO 92/15694	09/1992	SALK INST BIOLOG STUD (US)		
X	B5	WO 93/03736	03/1993	MICROPROBE CORP (US)		
Z	B6	WO 93/05177	03/1993	DAIKIN IND LTD (JP)		
Z	B7	WO 93/05178	03/1993	DAIKIN IND LTD (JP)		
Z	B8	WO 93/22443	11/1993	STANFORD RES INST INT (US)		
Z	B9	WO 94/04032	03/1994	UNIV CALIF (US)		
Z	B10	WO 94/04669	03/1994	MEDICAL RES COUNSEL (GB)		
Z	B11	WO 95/22625	08/1995	AFFYMAX TECH NV (AN)		
Z	B12	WO 96/03051	02/1996	GENE PHARMING EUROP (NL)		
Z	B13	WO 96/40765	12/1996	U.S. DEPT HEALTH (US)		
Z	B14	WO 97/04111	02/1997	U.S. DEPT HEALTH (US)		
Z	B15	WO 97/05268	02/1997	SETRATECH (FR)		
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Z	B18					

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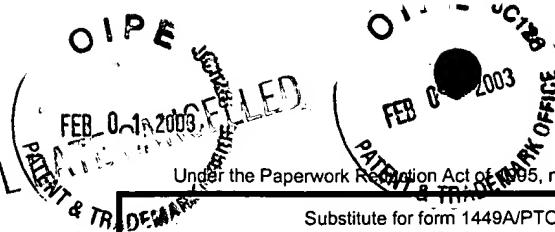
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A-64580-5/RFT/NBC (467135-38)

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
<input checked="" type="checkbox"/>	C1	AFONINA, I., et al., "Sequence-specific arrest of primer extension on single-stranded DNA by an oligonucleotide-minor groove binder conjugate", Proc. Natl. Acad. Sci. USA, 93:3199-3204 (Apr. 1996).
<input checked="" type="checkbox"/>	C2	ANDERSON, W.F., "Human gene therapy." Nature. 1998 Apr 30;392(6679 Suppl):25-30.
<input checked="" type="checkbox"/>	C3	AUSUBEL et al., "Short Protocols in Molecular Biology," 2n ed. (John Wiley & Sons: New York), pp. 9-14 and 9-15 (1992).
<input checked="" type="checkbox"/>	C4	BERTLING, "Transfection of a DNA/Protein Complex into Nuclei of Mammalian Cells Using Polyoma Capsids and Electroporation," Bioscience Reports, 7:107-111 (1987).
<input checked="" type="checkbox"/>	C5	BERTOLOTTI, R., "Recombinase-mediated Gene Therapy", Bionews, Newsletter of BioTechnology, Health and Environmental Sciences, N14 (Nov. 1996).
<input checked="" type="checkbox"/>	C6	BRADLEY, A. et al., "Modifying the mouse: design and desire." Biotechnology (N Y). 1992 May;10(5):534-9
<input checked="" type="checkbox"/>	C7	CAMERINI-OTERO, R.D., et al., "Homologous Recombination Proteins in Prokaryotes and Eukaryotes", Annu. Rev. Genetics, 29:509-52 (1995).
<input checked="" type="checkbox"/>	C8	CASSUTO, et al., "Initiation of genetic recombination" Homologous pairing between duplex DNA molecules promoted by recA protein," Proc. Natl. Acad. Sci. USA, 77(7):3962-3966 (1980).
<input checked="" type="checkbox"/>	C9	CHENG et al., "RecA-Directed Hybridization of Psoralen-Monoadducted DNA Oligonucleotides to Duplex Targets," NATO ASI Ser., Ser C., Photochemical Probes in Biochemistry, 272:169-177, P.E. Nielsen (ed.), (1989).
<input checked="" type="checkbox"/>	C10	CLARKE et al., "Defective Epithelial Chloride Transport in a Gene-Targeted Mouse Model of Cystic Fibrosis," Science, 257:1125-1128 (1992).
<input checked="" type="checkbox"/>	C11	CLERMONT, Y. et al., "Structure of the Golgi Apparatus in Stimulated and Nonstimulated Acinar Cells of Mammary Glands of the Rat," The Anatomical Record 237:308-317 (1993).
<input checked="" type="checkbox"/>	C12	CLERMONT, et al., "Transport of Casein Submicelles and Formation of Secretion Granules in the Golgi Apparatus of Epithelial Cells of the Lactating Mammary Gland of the Rat," The Anatomical Record 235:363-373 (1993).
<input checked="" type="checkbox"/>	C13	COLE-STRAUSS, A., et al., "Correction of the Mutation Responsible for Sickle Cell Anemia by an RNA-DNA Oligonucleotide", Science, Vol.273:1386-1389 (Sep. 1996).
<input checked="" type="checkbox"/>	C14	COX et al., "Enzymes of General Recombination," Ann. Rev. Biochem, 56:229-262 (1987).
<input checked="" type="checkbox"/>	C15	CRAMERI, A., et al., "Improved Green Fluorescent Protein by Molecular Evolution Using DNA Shuffling", Nature BioTech., 14:315-319 (Mar. 1996).
<input checked="" type="checkbox"/>	C16	CRAMERI, A., et al., "Construction and evolution of antibody-phage libraries by DNA shuffling", Nature Medicine, Vol.2, No.1:100-102 (Jan. 1996).
<input checked="" type="checkbox"/>	C17	DECHIARA, T.M. et al., "A growth-deficiency phenotype in heterozygous mice carrying an insulin-like growth factor II gene disrupted by targeting." Nature. 1990 May 3;345(6270):78-80

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Date Considered

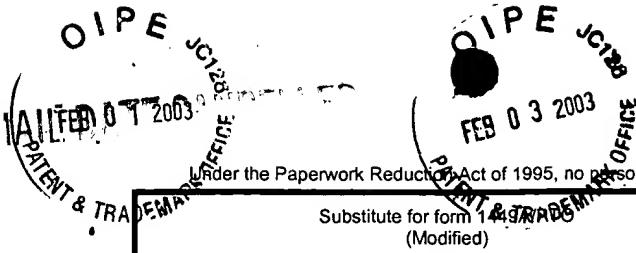
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Substitute for form 1497 (TRADEMARK OFFICE) (Modified)				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	09/990,433
(use as many sheets as necessary)				Filing Date	November 20, 2001
Sheet	4	of	8	First Named Inventor	ZARLING, David A.
				Group Art Unit	1633-1636
				Examiner Name	KAUSHAL
				Attorney Docket Number	A-64580-5/RFT/NBC (467435-38)

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
C	C18	DRUMM, et al., "Correction of the Cystic Fibrosis Defect In Vitro by Retrovirus-Mediated Gene Transfer," Cell, 62:1227-1233 (1990).
S	C19	DUNDERDALE, et al., "Formation and Resolution of Recombination Intermediates by E. Coli RecA and RuvC Proteins," Nature, 354(19):506-510 (1991).
S	C20	FABRE, J.W. "Nudging xenotransplantation towards humans." Nat Med. 1995 May;1(5):403-4.
S	C21	FELGNER et al. "Lipofection: A Highly Efficient, Lipid-Mediated DNA-Transfection Procedure," Proc. Natl. Acad. Sci. USA, 84:7413-7417 (1987).
S	C22	FIELDS and JANG, "Presence of a Potent Transcription Activating Sequence in the p53 Protein," Science, 249:1046-1049 (1990).
S	C23	FU, D., et al., "Sequencing double-stranded DNA by strand displacement", Nucleic Acids Res., 25(3):677-679 (1997).
S	C24	GATES, C.M., et al., "Affinity Selective Isolation of Ligands from Peptide Libraries Through Display on a lac Repressor "Headpiece Dimer", J. Mol. Biol., 255:373-386 (1996).
S	C25	GURDON, "The Birth of Cloning," The Sciences 26-31 (September-October 1997).
S	C26	HAMMER, R.E. et al., "Spontaneous inflammatory disease in transgenic rats expressing HLA-B27 and human beta 2m: an animal model of HLA-B27-associated human disorders." Cell. 1990 Nov 30;63(5):1099-112
S	C27	HART, et al., "Born Again?," The Sciences 47-51 (September-October 1997).
S	C28	HASTY et al., "Introduction of a Subtle Mutation into the Hox-2.6 Locus in Embryonic Stem Cells," Nature, 350:243-246 (1991).
S	C29	HERZING, L.B.K., et al., "Novel lacZ-based recombination vectors for mammalian cells", Gene, 137:163-169 (1993).
S	C30	HUNGER-BERTLING, K., et al., "Short DNA fragments induce site specific recombination in mammalian cells", Mol. and Cellular Biochem., 92:107-116 (1990).
S	C31	HUYNH, et al., "Establishment of Bovine Mammary Epithelial Cells (MAC-T): An in Vitro Model for Bovine Lactation," Experimental Cell Research 197:191-199 (1991).
S	C32	JASIN, M., et al., "Targeted transgenesis", Proc. Natl. Acad. Sci. USA, 93:8804-8808 (Aug. 1996).
S	C33	JAYASENA, V.K., et al., "Complement-stabilized D-loop--RecA-catalyzed Stable Pairing of Linear DNA Molecules at Internal Sites", J. Mol. Biol., 230:1015-1024 (1993).
S	C34	KARATZAS, et al., "Toward Altering Milk Composition by Genetic Manipulation: Current Status and Challenges," J. Dairy Sci. 80:2225-2232 (1997).
S	C35	KEEFER, et al., "Bovine Inner Cell Mass Cells as Donor Nuclei in the Production of Nuclear Transfer Embryos and Calves," Biology of Reproduction, 50:935-939 (1994).

Examiner Signature

Date Considered

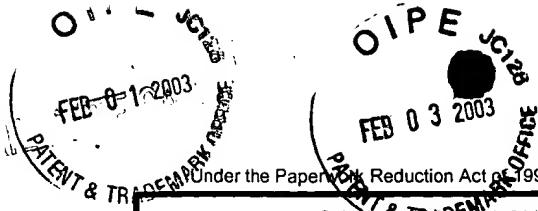
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	09/990,433
Filing Date	November 20, 2001
First Named Inventor	ZARLING, David A.
Group Art Unit	1633 1626
Examiner Name	KAUSHAL

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
S	C36	KEEFER, et al., "Isolation and Maintenance of Putative Embryonic Stem (ES) Cells Derived from Nigerian Dwarf Goat Embryos," Biol. Reprod. 54(51):172 [No. 462] (1996).
S	C37	KIDO, M., et al., "Escherichia coli RecA Protein Modified with a Nuclear Location Signal Binds to Chromosomes in Living Mammalian Cells", Exper. Cell Res., 198:107-114 (1992).
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S	C39	KOWALCZYKOWSKI, S.C., et al., "Homologous Recombination Proteins and their Potential Applications in Gene Targeting Technology," Gene Targeting, CRC Press: Boca Raton, ed. Manuel A. Vega, Chap. 7:167-210 (1995).
S	C40	KUEHN, M.R. et al., "A potential animal model for Lesch-Nyhan syndrome through introduction of HPRT mutations into mice." Nature. 1987 Mar 19-25;326(6110):295-8
Q	C41	KUHN, R., et al. "Inducible gene targeting in mice." Science. 1995 Sep 8;269(5229):1427-9
S	C42	KUNZELMANN, K., et al., "Gene targeting of CFTR DNA in CF epithelial cells", Gene Therapy, 3:859-867 (1996).
S	C43	KUTYAVIN, I.V., et al., "Oligonucleotides Containing 2-Aminoadenine and 2-Thiothymine Act as Selectively Binding Complementary Agents", Biochemistry, 35:11170-11176 (1996).
S	C44	LANGER et al., "Enzymatic Synthesis of Biotin-Labeled Polynucleotides: Novel Nucleic Acid Affinity Probes," Proc. Natl. Acad. Sci. USA, 78(11):6633-6637 (1981).
S	C45	LIN, Y. et al., "Morphologic Observation of Neutrophil Diapedesis Across Bovine Mammary Gland Epithelium in Vitro," Am. J. Vet. Res. 56(2):203-207 (1995).
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Q	C47	LUDWIG, D.L., et al., "Spontaneous and Induced Homologous Recombination Between lacZ Chromosomal Direct Repeats in CV-1 Cells", Somane Cell and Molecular Genetics, 20(1):11-25 (1994).
S	C48	LUKHTANOV, E.A. et al., "Rapid and Efficient Hybridization-Triggered Crosslinking within a DNA Duplex by an Oligodeoxyribonucleotide Bearing a Conjugated Cyclopropapyrrolindole," Nucleic Acids Research, 24(4):683-687 (1996).
S	C49	MACDONALD, et al., "Neutrophil Function In Vitro: Diapedesis and Phagocytosis," J Dairy Sci., 77:628-638 (1994).
S	C50	MATSUMURA, I., et al., "DNA Shuffling brightens prospects for GFP", Nature BioTech., Vol. 14:366 (Mar. 1996).
Q	C51	MEADE, H. "Dairy Gene," The Sciences, 20-25 (September/October 1997).
S	C52	MEYER Jr., R.B., et al., "Efficient, Specific Cross-Linking and Cleavage of DNA by Stable, Synthetic Complementary Oligodeoxynucleotides", J. of the Amer. Chem. Soc., 111(22):8517-8519 (1989).

Examiner Signature		Date Considered	10/6/03
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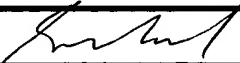
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	6	of	8	Attorney Docket Number	A-64580-5/RFT/NBC (467135-38)
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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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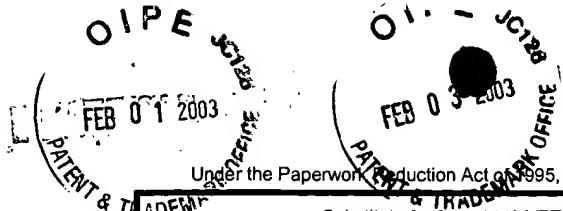
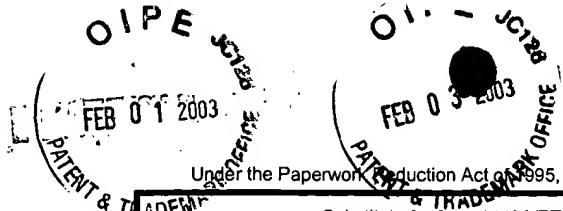
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Complete if Known

Application Number	09/990,433
Filing Date	November 20, 2001
First Named Inventor	ZARLING, David A.
Group Art Unit	1633 /G36
Examiner Name	WAUSHAL

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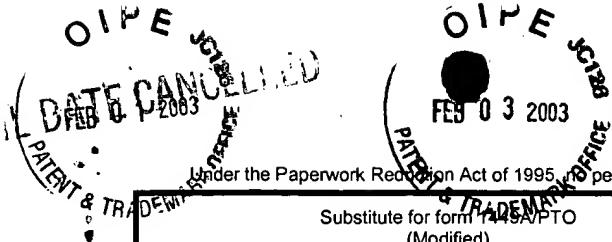
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S	C99	"Production of Recombinant Proteins in the Milk of Transgenic Animals," Genzyme Transgenics 3-30.			
	C100				
	C101				
	C102				

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